



**Missouri Environmental Public Health Tracking (EPHT) Network**  
*Metadata Record*

## Small Area Income and Poverty Estimates Data

Description
<b>Citation</b> <b>Title:</b> Small Area Income And Poverty Estimates_Living In Poverty_1999_2009  <b>Originators:</b> Missouri EPHT Program  <b>Publication date:</b> 06/01/2011
<b>Description</b> <b>Abstract:</b> Detailed counts of Missouri's children living in poverty by county from the United States Department of Commerce/Census Bureau's Small Area Income and Poverty Estimates Program. This file includes both upper and lower limits of confidence intervals.  <b>Purpose:</b> This dataset is provided as a reference for users of the Missouri EPHT Network.  <b>Supplemental information:</b> This dataset was obtained from the US Census Bureau's Small Area Income and Poverty Estimates Program available on the Internet at <a href="http://www.census.gov/did/www/saipe/about/index.html">http://www.census.gov/did/www/saipe/about/index.html</a> .
<b>Point of Contact</b> <b>Person:</b> Missouri EPHT Program Manager <b>Organization:</b> Missouri Department of Health and Senior Services Division of Community and Public Health Section for Environmental Public Health Bureau of Environmental Epidemiology  <b>Phone:</b> 573-751-6102 <b>Fax:</b> 573-751-6041 <b>Telecommunications Device or Teletypewriter (TDD/TTY) phone:</b> 800-669-8819 <b>Email:</b> <a href="mailto:EPHTN@health.mo.gov">EPHTN@health.mo.gov</a>  <b>Address type:</b> Mailing <b>Address:</b> PO Box 570 <b>City:</b> Jefferson City <b>State or Province:</b> MO <b>Postal code:</b> 65102-0570 <b>County:</b> Cole County

<b>Address type:</b> Physical <b>Address:</b> 930 Wildwood Drive <b>City:</b> Jefferson City <b>State or Province:</b> MO <b>Postal code:</b> 65109 <b>County:</b> Cole County
<b>Data Type</b>
<b>Native dataset environment:</b> The file was created using Microsoft Excel.
<b>Time Period of Data</b>
<b>Beginning date:</b> 01/01/1999 <b>Ending date:</b> 12/31/2009 <b>Currentness reference:</b> Time Period End Date
<b>Status</b>
<b>Data status:</b> Complete
<b>Update frequency:</b> None
<b>Key Words</b>
<b>Theme:</b> <b>Keywords:</b> small area, children, No Child Left Behind, school district, state, county, Title I, poverty, median household income, model, 029, Missouri, MO <b>Keyword thesaurus:</b> None  <b>Place:</b> Location <b>Keywords:</b> 029, Missouri, MO <b>Keyword thesaurus:</b> FIPS 5-2 (State)
<b>Data Access Constraints</b>
<b>Access constraints:</b> Public access  <b>Use constraints:</b> <i>How should this dataset be used?</i> Use of this data is restricted for statistical reporting and analysis only.  <i>How should this dataset not be used?</i> Do not attempt to learn the identity of any person included in the data. Do not disclose or make use of the identity of any person or establishment discovered inadvertently and report the discovery to: Missouri EPHT Program Manager Bureau of Environmental Epidemiology P.O. Box 570 Jefferson City, MO 65102-0570 Phone: 573-751-6102 Email: <a href="mailto:EPHTN@health.mo.gov">EPHTN@health.mo.gov</a>

*Can it be linked to other datasets?*

Do not combine this data with other data for the purpose of matching records to identify individuals. Do not disclose or make use of the identity of any person or establishment discovered inadvertently and report the discovery to:

Missouri EPHT Program Manager  
Bureau of Environmental Epidemiology  
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Jefferson City, MO 65102-0570  
Phone: 573-751-6102  
Email: [EPHTN@health.mo.gov](mailto:EPHTN@health.mo.gov)

*Can these data be used for commercial purposes?*

No.

*Can these data be used to form a basis for additional health studies or some remediation actions?*

N/A

*What are the constraints for data interpretation?*

Do not imply or state, either in written or oral form, that interpretations based on the data are those of the original data sources, the Missouri State Government, the Missouri Department of Health and Senior Services, or the Centers for Disease Control and Prevention unless the data user and data sources are formally collaborating and have received written permission to do so. Acknowledge, in all reports or presentations based on these data, the original source of the data, the Missouri Department of Health and Senior Services, and the Centers for Disease Control and Prevention.

#### **Data Security Information**

**Security classification system:** Public

**Security classification:** Unrestricted

**Security handling:** No security measures have been specified for this dataset.

#### **Spatial Reference Information**

##### **Spatial Domain**

##### **Bounding Coordinates**

**In Unprojected coordinates (geographic)**

<b>Boundary</b>	<b>Coordinate</b>
West	-95.77469999999996 (latitude)
East	-89.098842000000005 (latitude)

	North	40.613639999999997 (longitude)	
	South	35.995479000000003 (longitude)	

### Data Structure and Attribute Information

#### Overview

**Entity and attribute overview:** The U.S. Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program provides annual estimates of income and poverty statistics for all states, counties, and school districts. The main objective of this program is to provide estimates of income and poverty for the administration of federal programs and the allocation of federal funds to local jurisdictions. In addition to these federal programs, state and local programs use the income and poverty estimates for distributing funds and managing programs.

The SAIPE program produces the following state and county estimates:

- total number of people in poverty
- number of children under age 5 in poverty (for states only)
- number of related children ages 5 to 17 in families in poverty
- number of children under age 18 in poverty
- median household income

The estimates are not direct counts from enumerations or administrative records, nor direct estimates from sample surveys. Instead, for states and counties, the SAIPE Program models income and poverty estimates by combining survey data with population estimates and administrative records.

With the full implementation of the ACS in January 2005, single-year direct survey estimates for counties and other areas with a population of 65,000 or more are available. Starting in December 2010, the American Community Survey (ACS) provides direct survey estimates for all counties and school districts, as well as for other small geographic areas (e.g., census tracts). For areas with populations less than 65,000, these direct survey estimates are based on 3-year or 5-year accumulations of ACS data, depending on population size of the area. Since modeling produces estimates with reduced sampling error, the SAIPE program will continue to produce single-year model-based estimates for all states, counties, and school districts.

**Entity and attribute detailed citation:** Suggested citation is: US Census Bureau, Small Area Income and Poverty Estimates Program, <http://www.census.gov/did/www/saipe/index.html>.

### Data Quality and Accuracy Information

#### General

**Logical consistency report:** Differences between direct survey estimates obtained from different sources (Census 2000, CPS ASEC, ACS) reflect both differences in the true levels of income and poverty (when comparing estimates for different places or different

years), as well as differences in the methods by which the survey data were collected and the estimates were made.

Census 2000 and ACS direct survey estimates are used in construction of the SAIPE model-based estimates of poverty and median household income. Therefore, the intercensal model-based estimates almost certainly exhibit a positive correlation with Census 2000 and ACS direct survey estimates. When testing the significance of differences in estimates from these sources, caution should be used in deriving the confidence intervals. Although the SAIPE Program currently do not have estimates of the individual correlations or advice on estimating the general magnitude of the correlation, failure to incorporate the positive correlation between the estimates will produce confidence intervals that are too wide; thus, too many differences will be considered "not significant." This caution does not apply to comparisons between Census 2000 state-level data because the Census 2000 estimates have close to negligible sampling error.

Statistical comparisons of SAIPE state and county estimates across years are possible if cross-year correlations are taken into account. For all years of estimates, there is correlation of the model error, and for the years prior to 2005 there is correlation of the sampling error as well. Methodologies for comparison of state and county estimates have been developed, but currently no methods are available for comparing school district estimates across different years. For state-level estimates, *Methodology for Testing for a Rise in Child Poverty Rate* [available on the Internet at <http://www.census.gov/did/www/saipe/methods/index.html>] describes a methodology for taking into account these cross-year correlations in estimating if any states have a five percent or greater significant change in child poverty rate between two years. A methodology for counties has also been developed for use in analyzing trends in poverty over time. This methodology and corresponding results are documented in the *Serial Comparisons in Small Domain Models* [available on the Internet at <http://www.census.gov/did/www/saipe/methods/index.html>].

These methods cannot be applied directly to published estimates, however, since changes to survey coverage, geographic definitions, and SAIPE methodology create breaks in the published time series. For the series of SAIPE state and county estimates, notable differences include the break between 2004 and 2005 due to the switch from CPS ASEC to ACS data in SAIPE modeling. Comparisons across these particular years are not advised because of this break in series. See *Estimation Procedure Changes for the 2005 Estimates* for more details [available on the Internet at <http://www.census.gov/did/www/saipe/methods/index.html>]. Also, with the introduction of group quarters populations to the ACS starting with the 2006 ACS, comparability for certain age groups across 2005 and 2006 is limited. Generally residents of group quarters have higher poverty rates than residents of households, and this affects the comparison. See *ACS 2006 Subject Definitions*, (pp. 69-73) for more details [available on the Internet at <http://www.census.gov/did/www/saipe/methods/index.html>].

Finally, a modification to the methodology for calculating standard errors was made between the 2008 and 2009 estimates, as described in *Estimation Procedure Changes for 2006-2009* [available on the Internet at <http://www.census.gov/did/www/saipe/methods/index.html>].

All SAIPE model-based estimates are correlated because they depend on the same regression coefficients. Also estimates for individual states are controlled to add up to the national ACS estimate, and counties within each state are controlled to add up to the state-level estimate. These controls create additional correlation. Therefore, to make comparisons between two or more states or counties, it is not sufficient to take the variances (implied by the confidence intervals) for the two different places and apply the usual estimates difference hypothesis testing. Methodology has been developed for making these comparisons, and some results are reported in the *2009 SAIPE Highlights* [available on the Internet at <http://www.census.gov/did/www/saipe/methods/index.html>]. On average, these correlations are small (less than 5%), but can vary from near zero to over 30%. Due to this wide dispersion in potential correlation, SAIPE does not provide general guidance for comparing arbitrary pairs of states or counties.

**Completeness report:** The model-based estimates almost certainly differ from the figures that would result from administering the ACS to all households in the nation. These differences might arise because a sample was surveyed rather than all households, because our model does not fit all counties, or for other reasons. The possibility of these differences creates uncertainty about the estimates. Standard errors are produced for all of the model-based estimates, largely to provide an indication of the overall quality of the set of all county estimates. With some caution they may also be used to provide confidence intervals for individual estimates.

The standard errors represent "uncertainty" arising from several sources, especially:

- ACS sampling variation within counties; and
- "lack of fit" of the model to what the ACS measures.

ACS sampling variation creates uncertainty about the model predictions because the direct estimation of variance becomes more precise as county size increases. It is also present but reduced in the shrinkage estimates for counties with ACS sample households. The SAIPE Program represents the uncertainty arising from lack of fit of the model as a variance constant over all counties, since it is unknown which counties the model doesn't fit. In general, the sampling variance is large compared with the lack of fit variance. These standard errors are quite different from the estimates of direct sampling variation which characterize the uncertainty of U.S. Census Bureau estimates, both because they include nonsampling variance and because of the way sampling variance influences them. The SAIPE Program employs these standard errors to form 90 percent confidence intervals and construct the relative width of the 90 percent confidence interval. The program uses these relative widths to compare standard errors.

Several sources of uncertainty are not represented in the standard errors, including the following:

- nonsampling error in the ACS, which comes from:
  - inability to obtain information about all cases in the sample;
  - definitional difficulties;
  - differences in the interpretation of questions;
  - respondents' inability or unwillingness to provide correct information;
  - respondents' inability to recall information;
  - errors made in data collection, such as the method of collection (paper versus computer assisted), recording
  - or coding the data;
  - errors made in processing the data;
  - errors made in estimating values for missing data; and
  - failure to represent all units with the sample, i.e., undercoverage;
  - differences between the counties that have zero persons in poverty and those counties with at least one person in poverty;
- differences between counties in the true relationship between the administrative records and what the ACS measures; and
- errors in the administrative records.

Some of these sources of uncertainty are alluded to elsewhere on the Census Bureau web site, as points of difference among the three sets of estimates: census, ACS, and model-based. While we can give examples of the underlying mechanisms for each, the SAIPE Program has not made a quantitative assessment of the uncertainty they contribute to the present estimates.

Several features of the state estimates should be noted:

- Bayesian estimation techniques are applied to the SAIPE program's models to combine regression predictions with direct estimates from the ACS in a way that varies the importance given to the direct ACS estimates from state to state depending upon their reliability.
- The SAIPE program multiplies model-based estimates of state poverty ratios by demographic estimates of state populations to provide estimates of the numbers of people in poverty in each state for various age groups.
- The SAIPE program controls these state estimates of the number of people in poverty so that their total across states agrees with the direct ACS national estimate.
- The SAIPE program state models use data from the prior census (2000) to form a predictor variable in the regression models in one of two ways. The models either use the Census 2000 estimates directly, or use residuals from auxiliary cross-sectional regressions done with the Census 2000 estimates.
- Because the Department of Education requires estimates of the number of "related

children age 5 to 17 in families in poverty", and not all children 5 to 17 are "related children", there are two sets of equations for children ages 5 to 17.

- The SAIPE program estimates the total number of people in poverty as the sum of estimates derived from a set of four age-specific equations.

For additional information concerning the technical documentation, contact Administrative and Customer Services Division, Electronic Products Development Branch, U.S. Census Bureau, Washington, DC 20233 or phone 301-457-1326.

### Data Source and Process Information

#### Process Steps

#### Process step information

##### Process Step 1

**Process description:** Dataset accessed via Internet from the SAIPE Program at <http://www.census.gov/did/www/saipe/index.html>.

**Process date:** 06/01/2011

##### Process Step 2

**Process description:** Dataset downloaded to local machine. Microsoft Excel file.

**Process date:** 06/01/2011

##### Process Step 3

**Process description:** Missouri Metadata record created for the dataset using the Missouri EPHT Metadata Record format then converted to .pdf. The creation of a Missouri Metadata record is completed to assist users by offering the record in a format compatible with electronic reading devices and smart phones.

**Process date:** 06/01/2011

### Data Distribution Information

#### General

**Resource description:** XLS file

**Distribution liability:** These data were provided by the Missouri Department of Health and Senior Services; the findings and conclusions based on these data are the sole responsibility of the author(s) of the study.

Although every effort has been made to ensure the accuracy of the material contained in this dataset and the Missouri EPHT Network Portal, complete accuracy cannot be guaranteed. The Missouri Department of Health and Senior Services is not responsible for any errors or misprints contained herein and cannot accept any responsibility whatsoever for loss or damage occasioned or claimed to have been occasioned, in part or in full, as a consequence of any person acting, or refraining from acting, as a result of a matter



contained within the Missouri EPHT Network Portal.

### **Distribution Point of Contact**

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**City:** Jefferson City

**State or Province:** MO

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**Address type:** Physical

**Address:** 930 Wildwood Drive

**City:** Jefferson City

**State or Province:** MO

**Postal code:** 65109

**County:** Cole County

### **Custom Order Process**

**Custom order process:** Custom selected data from this data source/set is available from the United States Census Bureau at <http://www.census.gov> or at the below contact information:

- Call Center: 301-763-INFO (4636) or 800-923-8282
- TDD/TTY users can dial 1-800-877-8339 to use the Federal Relay Service
- Mailing Address:
  - U.S. Census Bureau
  - 4600 Silver Hill Road
  - Washington, DC 20233
  - Via private carriers (FedEx, DHL, UPS, couriers and suppliers):
    - U.S. Census Bureau
    - 4600 Silver Hill Road
    - Suitland, MD 20746

More information on obtaining a custom created Missouri specific health record dataset is available at <http://www.health.mo.gov/data/policies.php>

Metadata Reference
<b>Metadata Date</b>
<b>Last updated:</b> 06/01/2011
<b>Metadata Point of Contact</b>
<p><b>Person:</b> Missouri EPHT Program Manager  <b>Organization:</b> Missouri Department of Health and Senior Services  Division of Community and Public Health  Section for Environmental Public Health  Bureau of Environmental Epidemiology</p> <p><b>Phone:</b> 573-751-6102  <b>Fax:</b> 573-751-6041  <b>Telecommunications Device or Teletypewriter (TDD/TTY) phone:</b> 800-669-8819  <b>Email:</b> <a href="mailto:EPHTN@health.mo.gov">EPHTN@health.mo.gov</a></p> <p><b>Address type:</b> Mailing  <b>Address:</b> PO Box 570  <b>City:</b> Jefferson City  <b>State or Province:</b> MO  <b>Postal code:</b> 65102-0570  <b>County:</b> Cole County</p> <p><b>Address type:</b> Physical  <b>Address:</b> 930 Wildwood Drive  <b>City:</b> Jefferson City  <b>State or Province:</b> MO  <b>Postal code:</b> 65109  <b>County:</b> Cole County</p>
<b>Metadata Access Constraints</b>
<b>Access constraints:</b> None <b>Use constraints:</b> None
<b>Metadata Standards</b>
<b>Standard name:</b> FGDC Content Standard for Geospatial Metadata